

IN THE CLAIMS

Please amend claims 1, 24, 38, and 39, and cancel claims 40-42, as indicated below.

Please also cancel claims 16-23 to the extent not already canceled by prior amendment.

1. (currently amended) An article comprising an amorphous silicon carbide thin film on a structure selected from the group consisting of:

substrates that are transmissive to ~~at least one of light and~~ infrared radiation;

structures adversely affected by exposure to radio frequency and/or microwave

radiation thereon;

shielding members for protection of structures adversely affected by exposure to

radio frequency and/or microwave radiation thereon;

structures susceptible to chemical attack and/or thermal degradation in their end

use environments; and

electronic circuitry structures susceptible to diffusional release and/or diffusional

receipt of atomic species in use thereof.

16. (canceled)

17. (canceled)

18. (canceled)

19. (canceled)

20. (canceled)

21. (canceled)

22. (canceled)

23. (canceled)

24. (currently amended) An electromagnetic interference shielded assembly, comprising:

a structure disposed in protective relationship to a region to be shielded; and

an electrically conductive thin film of amorphous silicon carbide on at least a portion of said structure to allow the region to remain operable at temperatures up to about 1000°C.

25. (previously added) The electromagnetic interference shielded assembly of claim 24, wherein the thin film exhibits sufficient conductivity to provide a ground path for electromagnetic interference induced currents and exhibits sufficient optical transparency to pass optical signals through the window without substantial attenuation.

26. (previously added) The electromagnetic interference shielded assembly of claim 24, wherein the thin film exhibits an electrical resistivity in the range from about 10 mΩ cm to about 25 mΩ cm.

27. (previously added) The electromagnetic interference shielded assembly of claim 24, wherein the thin film has been deposited on the structure by a process selected from the group consisting of chemical vapor deposition, plasma enhanced chemical vapor deposition, RF glow discharge, RF sputtering, ion cluster beam deposition, ion beam

sputtering, sol gel coating, reactive sputtering, plasma spray, reactant spraying, microwave discharge, and photo CVD.

28. (previously added) The electromagnetic interference shielded assembly of claim 24, wherein the thin film comprises a sputtered thin film.

29. (previously added) The electromagnetic interference shielded assembly of claim 24, wherein the thin film has a thickness in the range from about 0.025 micron to about 10 microns.

30. (previously added) The electromagnetic interference shielded assembly of claim 24, wherein the thin film has a thickness in the range from about 0.05 micron to about 1.0 micron.

31. (previously added) The electromagnetic interference shielded assembly of claim 24, wherein the thin film is formed with a thickness in the range from about 0.1 micron to about 0.5 micron.

32. (previously added) The electromagnetic interference shielded assembly of claim 24, further comprising a glue layer between the structure and the thin film.

33. (previously added) The electromagnetic interference shielded assembly of claim 24, wherein the glue layer comprises a material selected from the group consisting of Ti, Si, Cr, and Zr.

34. (previously added) A sensor assembly, comprising:
a sensor; and
an amorphous silicon carbide thin film on at least part of the sensor.

35. (previously added) The sensor assembly of claim 34, wherein the thin film has a thickness in the range from about 0.025 micron to about 10 microns.

36. (previously added) The sensor assembly of claim 34, wherein the thin film has a thickness in the range from about 0.05 micron to about 1.0 micron.

37. (previously amended) The sensor assembly of claim 34, wherein the thin film has a thickness in the range from about 0.1 micron to about 0.5 micron.

38. (currently amended) A sensor assembly ~~comprising~~ a sensor including sensing element(s) formed of amorphous silicon carbide to remain, ~~whereby the sensor assembly is operable at temperatures up to~~ between about 350°C and about 1000°C.

39. (currently amended) A high-temperature sensor assembly, comprising:

a sensing element formed of amorphous silicon carbide to remain operable at temperatures between about 730°C and about 1000°C; and

electrical circuitry operatively coupled with the sensing element, said electrical circuitry comprising amorphous silicon carbide doped with at least one dopant selected from the group consisting of n-type and p-type dopants, ~~whereby the sensor assembly is operable at temperatures up to 1000°C.~~

40. (Canceled)

41. (Canceled)

42. (Canceled)